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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,950	12/30/2004	Rainer Hipfel	P67772US1	3111

136 7590 06/25/2007

JACOBSON HOLMAN PLLC
400 SEVENTH STREET N.W.
SUITE 600
WASHINGTON, DC 20004

EXAMINER	
CHERNYSHEV, OLGA N	
ART UNIT	**PAPER NUMBER**
1649	

MAIL DATE	DELIVERY MODE
06/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/509,950	HIPFEL ET AL.	
	Examiner	Art Unit	
	Olga N. Chernyshev	1649	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 May 2007*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15 and 17-31* is/are pending in the application.

4a) Of the above claim(s) *11,12 and 21-26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10, 13-15, 17-20 and 27-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *sequence alignment, two pages*.

DETAILED ACTION

Response to Amendment

1. Claims 1, 3, 4, 7-10, 13-15 and 17-20 have been amended, claim 16 has been cancelled and claims 27-31 have been added as requested in the amendment filed on May 25, 2007. Following the amendment, claims 1-15 and 17-31 are pending in the instant application.

2. Claims 11, 12 and 21-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in Paper filed on June 16, 2006.

3. Claims 1-10, 13-15, 17-20 and 27-31 are under examination in the instant office action.

4. Any objection or rejection of record, which is not expressly repeated in this action has been overcome by Applicant's response and withdrawn.

5. Applicant's arguments filed on May 25, 2007 have been fully considered but they are not deemed to be persuasive for the reasons set forth below.

Information Disclosure Statement

6. At pp. 19-20 of the Response, Applicant submits that "the examiner has no discretion in the matter [of not considering the document from international search report]" and refers to MPEP 609.03. Applicant's argument has been fully considered; however, 37 CFR (b)(5) makes it clear that documents listed within IDS (regardless if these documents derived from the international search report or other sources), must be properly identified so that the art of record could be recognized and retrieved if needed by those skilled in the art.

"37 CFR (b)(5) Each publication listed in an information disclosure statement must be identified by publisher, author (if any), title, relevant pages of the publication, date, and place of publication".

In the instant case, the document AE cited in the IDS is identified by reference to "XP" code only, which is meaningless with respect to locating this document. Applicant is advised to provide the full citation of this document from the search report in compliance with 37 CFR (b)(5).

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 13-15, 17-20 and 30-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

9. Claims 13-20 and 30-31encompass methods of diagnosis, monitoring the progression or evaluating of treatment of Alzheimer's disease (AD) by measuring levels or activity of hTARPP and kits suitable to carry these methods. However, the instant specification fails to provide enough guidance for one skilled in the art on how to practice the instant inventions, thereby requiring undue experimentation to discover how to use Applicant's invention, as currently claimed.

The factors to be considered in determining whether a disclosure would require undue experimentation include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art and, (8) the breadth of the claims. *In re Wands*, 8 USPQ2d, 1400 (CAFC 1988).

The nature of the invention is the demonstration that human TARPP (hTARPP) mRNA was found to be differentially expressed in specific parts of post-mortem brains of patients with Alzheimer's disease as compared to control healthy individuals (p. 5 of the instant specification). Specifically, Figures 2 and 3 and Tables 1 and 2 indicate that expression of hTARPP in frontal cortex and temporal cortex and in frontal cortex and hippocampus was higher as compared to the corresponding control ratio values. As such, the utility of the instant claimed hTARPP molecules is established as a marker for Alzheimer's disease. However, the instant specification fails to provide any other information regarding the instant claimed molecules, such as their physiological role, activity or significance in the etiology of Alzheimer's pathology of the brain (see reasons of record in sections 8 and 9 of Paper mailed on August 15, 2006).

The state of the art is such that it does not recognize hTARPP as a marker for AD. There also appears to be no evidence of record presented in the instant specification or relied upon prior art references to suggest that a nucleic acid, which is differentially expressed in certain local areas of the brain of patients suffering from AD, becomes immediately useful for prognostic measures or for monitoring purposes using any sample obtained from a patient.

While the skill level in the art is high, the level of predictability is low. The sole working examples in the specification, as originally filed, pertain to the discovery of the differential expression of hTARPP in certain parts of human post-mortem AD brain tissue. While it is not necessary that Applicant understands or discloses the mechanism by which the invention functions, in this case, in the absence of such an understanding, no extrapolation can be made of the results obtained from expression patterns in human brain tissue from the very specific areas to other any other sample of tissues, cells or body fluids obtained from a patient.

Applicant's invention is predicated on the finding that tissue samples obtained from frontal cortex, temporal cortex and hippocampus of AD brain have higher ratio of hTARPP expression as compared to normal brain. Applicant further extrapolates this result into methods for diagnosis of AD, for monitoring progression and evaluating treatment of AD as well as into kits comprising instructions suggesting measurement and comparison of levels of hTARPP. Accordingly, it would appear that Applicant provides a single finding (the finding), and then presents an invitation to experiment and determine what are the levels of hTARPP in other samples of tissue, or cells, or body fluids, then to assay for differences in hTARPP expression (if any) between AD and control conditions, so that in case such differences are found, the data would be used for diagnostic purposes, or monitoring purposes, as currently claimed.

"[T]o be enabling, the specification.., must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.'" *Wright*, 999 F.2d at 1561, 27 USPQ2d at 1513 (emphasis added), quoted in *Genentech, Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1365, 42 USPQ2d 1001, 1004 (Fed. Cir. 1997). Thus, "there must be sufficient disclosure, either through illustrative examples or terminology, to teach those of ordinary skill

how to make and how to use the invention as broadly as it is claimed." *In re Vaeck*, 947 F.2d 488, 496 & n. 23, 20 USPQ2d 1438, 1445 & n. 23 (Fed. Cir. 1991), quoted in *Enzo Biochem, Inc. v. Calgene, Inc.*, 188 F.3d 1362, 1372, 52 USPQ2d 1129, 1138 (Fed. Cir. 1999).

"Patent protection is granted in return for an enabling disclosure..., not for vague intimations of general ideas that may or may not be workable." *Genentech*, 108 F.3d at 1365, 42 USPQ2d at 1005. "Tossing out the mere germ of an idea does not constitute enabling disclosure. While every aspect of a generic claim certainly need not have been carried out by an inventor, or exemplified in the specification, reasonable detail must be provided in order to enable members of the public [skilled in the art] to understand and carry out the invention." *Id.* at 1366, 42 USPQ2d at 1005 (emphasis added).

The instant specification is not enabling because one cannot follow the guidance presented therein and practice the claimed invention without first making a substantial inventive contribution.

Applicant is advised that claim 13, if limited to methods of diagnosing Alzheimer's disease by determining the levels of nucleic acid encoding hTARPP protein (as a ratio) in specific areas of human brain, as described in the instant specification, would be considered enabled.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 9-10, 13-15, 17-20 and 30-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. Claims 9 and 10 are vague and ambiguous for recitation "diagnostic target" or "screening target", respectively. Since both claims recite the same subject matter, the isolated protein of SEQ ID NO: 1, and the instant specification fails to provide clear definition of the "target" limitations, it is impossible to know what is intended by different targets and, accordingly, how to distinguish the scope of the two claims. Clarification is required.

13. Claim 13-15, 17-20 and 30-31 are vague and indefinite in so far as they employ the term "hTARPP" as a limitation. This term is appears to be novel, and without a reference to a precise amino acid sequence identified by a proper SEQ ID NO: one cannot determine the metes and bounds of "hTARPP". Moreover, because the instant specification does not identify that property or combination of properties which is unique to and, therefore, definitive of a "hTARPP", an artisan cannot determine if a compound which meets all of the other limitations of a claim would then be included or excluded from the claimed subject matter by the presence of this limitation.

14. Claims 13-15 and 17-20 are further vague and ambiguous for recitation of "activity" of hTARPP. Since the instant specification fails provide any information regarding specific activity of hTARPP protein, the metes and bounds of the recitation are not obvious.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claim 4, as currently amended, is rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,011,912, 1991.

Claim 4 is directed to an isolated DNA capable of hybridizing with the complement of the cDNA of SEQ ID NO: 2. Applicant is advised that since the claim does not provide any hybridization conditions, in accordance with the knowledge in the art, any nucleic acid is capable to hybridize with any other nucleic acid under some hybridization conditions. As such, the instant claim is anticipated by the disclosure of US Patent '912, which describes DNA molecules capable to hybridize to the complement described in SEQ ID NO: 2.

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

18. Claims 1-10 and 27-28 are rejected under 35 U.S.C. 102(e) as being anticipated by US Publication No.2003/0186249, published October 02, 2003, filed April 01, 2002. The document discloses polypeptide and polynucleotide sequences, "human TARPP genes", which have 100% structural similarity to the instant claimed molecules, see sequence alignment attached to the

instant office action, vectors and host cells comprising the instant claimed molecules, thus fully meeting the limitations of the instant claims.

Double Patenting

19. Applicant is advised that should claim 9 be found allowable, claim 10 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof, see reasons of record in section 15 of Paper mailed on August 15, 2006. Since claims 9 and 10 are drawn to the same protein of SEQ ID NO: 1, adding limitations of the intended use does not distinguish the scope of the claimed subject matter, unless these limitations are specifically defined as being distinct (see also reasoning in section 12 of the instant office action).

Conclusion

20. No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga N. Chernyshev whose telephone number is (571) 272-0870. The examiner can normally be reached on 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Y. Chan can be reached on (571) 272-0841. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Olga N. Chernyshev, Ph.D.
Primary Examiner
Art Unit 1649

June 20, 2007

<!--StartFragment-->RESULT 1
US-10-112-372-6
; Sequence 6, Application US/10112372
; Publication No. US20030186249A1
; GENERAL INFORMATION:
; APPLICANT: OriGene Technologies, Inc.
; TITLE OF INVENTION: Human TARPP Genes and Polypeptides
; FILE REFERENCE: 16U 105 R1
; CURRENT APPLICATION NUMBER: US/10/112,372
; CURRENT FILING DATE: 2002-04-01
; NUMBER OF SEQ ID NOS: 15
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 6
; LENGTH: 813
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-112-372-6

Query Match 100.0%; Score 4235; DB 4; Length 813;
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